A NEW METHOD OF MAKING AND FINISHING WAX-CELLS.

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After several years' testing, the following described method of making wax-cells has answered every demand, whether for fluid or dry mounting.

So that the wax may better adhere, a ring of asphalt (in benzole) cement, wider than the intended ring, is first drawn upon the slide. It is best to have such ringed slides in stock so that the asphalt has thoroughly set and seasoned. A mixture of wax and paraffin, in equal parts, is obtained by melting to a boil, and with it, upon the turn table, a cell drawn of whatever depth required, and immediately well covered with the asphalt cement, with special care to cover the inner and outer edges nearest the glass, so that the wax is enclosed on all sides by the cement. The paraffin hardening the wax, and the wax making the paraffin less brittle, make together a cell which will resist any change of temperature; the asphalt is used as an additional precaution in that direction.

Such cells, of various depths, should be kept on hand for thorough drying, the longer the better, to guard against any possible shrinkage; for which, however, there is in this cell very little danger. For mounting, whether dry or fluid, the crest of the cell should be covered with a very thin ring of the same mixture of wax and paraffin, and the cover-glass firmly pressed down on it. Mounts in such cells, with glycerin as a medium, have proved of easy manipulation and in every respect satisfactory.

After the cover-glass is in position, the following method of finishing the slide is recommended.

As the wax-cell has been enclosed with a benzole cement, the cover-glass should be fastened with a cement having a different solvent. Shellac (in alcohol) serves this purpose best. This

would finish the slide. If, however, it is desired to make the slide still more permanent, as well as an object of beauty, the following described process will well repay the additional labor. After the shellac has well dried, put on a ring of zink-white cement entirely enclosing the shellac, and, within a few minutes, before the zink has fully set, ring it with any color of King's lacquer (I have tried no others) in any manner taste might direct. The lacquer unites with the zink, and gives it the appearence of porcelain. Around the cover-glass, and around the cell on the slide, draw a ring of bronze paint. This will hide any defects in ringing and give the slide a very handsome appearance, with, after some practice, really little extra work.

Hints. In using shellac cement care must be taken that it be free from bubbles. Their presence, if the cement has been stirred shortly before use, has spoiled many slides. This, however, will apply to the use of any cement.

It must be apparent that the use of many cements on one slide, should make it almost indestructible. This is a decided advantage, and will save the annoyance of periodical repairs to the slide; but it requires care not to overload the cell with too many layers of each cement. After the shellac on the cover-glass is well set, the next cement, zink-white, should be well thinned. A watch-glass with benzole, if it is solvent, will be a help in this direction.

To obtain a variety of shades of the color of the lacquer used, have a watch-glass, with its solvent, alcohol, handy. By its use the color of the lacquer, whatever it may be, will yield an infinite variety in the appearance of the slides, especially if aided by a differenee in the size and location of the rings. I have used only King's blue lacquer, and have no two slides alike in appearance. This color and the bronze, above referred to, compliment each other and give beautiful results.

To finish a slide having no cell the same method, herein suggested, will be found very satisfactory. A single cement ring may serve for a time; but as all cements have volatile solvents, it is but natural that, with thorough drying, the remaining solid

should become brittle. This is prevented by the use of several layers of cement having different solvents. But it is claimed that a mount prepared for the use of high powers should have no ring to enclose the cover-glass, or else a very thin one. This does not seem reasonable. Whatever the medium in such mounts, usually balsam, it will certainly deteriorate if not protected by a cement ring. The higher the power to be used the more valuable the object mounted, and the more reason, therefore, to make the slide permanent. The heavy ringing, it is claimed, obstructs the necessarily close approach of the lense. This is true if a small cover-glass is used. But there is no reason why the smallest object, as one single diatom, well centered, can not be covered with a large cover-glass, and fastened with several layers of cement. Thus every objection is removed, and a valuable mount amply protected.